

General

Title

Inflow/outflow: ratio of the number of separations (discharges and deaths) from acute care/same-day surgery facilities within a given region divided by the number of acute care/same-day surgery separations generated by residents of that region.

Source(s)

Canadian Institute for Health Information (CIHI). Indicator metadata: inflow/outflow ratio. [internet]. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2015 May [accessed 2015 Jul 13].

Measure Domain

Primary Measure Domain

Related Population Health Measures: Population Use of Services

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the ratio of the number of separations (discharges and deaths) from acute care/same-day surgery facilities within a given region to the number of acute care/same-day surgery separations generated by residents of that region.

The indicator is expressed as an overall ratio.

Rationale

This indicator reflects the balance between the quantity of hospital stays provided to both residents and non-residents by all relevant facilities (acute care/same-day surgery) in a given region and the extent of utilization by residents of that region, whether they received care within or outside of the region.

Evidence for Rationale

Canadian Institute for Health Information (CIHI). Indicator metadata: inflow/outflow ratio. [internet]. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2015 May [accessed 2015 Jul 13].

Heart and Stroke Foundation of Canada. The growing burden of heart disease and stroke in Canada 2003. [internet]. [accessed 2014 Mar 01].

Johansen HL, Wielgosz AT, Nguyen K, Fry RN. Incidence, comorbidity, case fatality and readmission of hospitalized stroke patients in Canada. Can J Cardiol. 2006 Jan;22(1):65-71. [PubMed](#)

Truelsén T, Bonita R, Jamrozik K. Surveillance of stroke: a global perspective. Int J Epidemiol. 2001 Oct;30 Suppl 1:S11-6. [PubMed](#)

World Health Organization. WHO STEPS stroke manual: The WHO STEPwise approach to stroke surveillance. Geneva (Switzerland): World Health Organization; 2006.

Primary Health Components

Inflow/outflow overall ratio; coronary artery bypass graft (CABG); percutaneous coronary intervention (PCI); hip replacement; knee replacement; hysterectomy procedures

Denominator Description

Number of separations (discharges and deaths) from acute care/same-day surgery facilities generated by residents of the region for a given procedure (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

Number of separations (discharges and deaths) from acute care/same-day surgery facilities within a given region (including non-residents) for a given procedure (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

Unspecified

Extent of Measure Testing

Unspecified

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Hospital Inpatient

Hospital Outpatient

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Regional, County or City

Statement of Acceptable Minimum Sample Size

Unspecified

Target Population Age

Unspecified

Target Population Gender

Either male or female

National Framework for Public Health Quality

Public Health Aims for Quality

Population-centered

National Strategy for Quality Improvement in Health Care

National Quality Strategy Priority

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Not within an IOM Care Need

IOM Domain

Not within an IOM Domain

Data Collection for the Measure

Case Finding Period

April 1 to March 31

Denominator Sampling Frame

Geographically defined

Denominator (Index) Event or Characteristic

Geographic Location

Institutionalization

Therapeutic Intervention

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions

Number of separations (discharges and deaths) from acute care/same-day surgery facilities generated by residents of the region for a given procedure:

Coronary artery bypass graft (CABG) (acute care discharges only)
Percutaneous coronary intervention (PCI) (acute care and same-day surgery discharges)
Hip replacement (acute care discharges only)
Knee replacement (acute care and same-day surgery discharges)
Hysterectomy (acute care and same-day surgery discharges)

Note: Refer to the original measure documentation for the administrative codes. Procedure codes may be recorded in any position.

Exclusions
Unspecified

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions

Number of separations (discharges and deaths) from acute care/same-day surgery facilities within a given region (including non-residents) for a given procedure:

Coronary artery bypass graft (CABG) (acute care discharges only)
Percutaneous coronary intervention (PCI) (acute care and same-day surgery discharges)
Hip replacement (acute care discharges only)
Knee replacement (acute care and same-day surgery discharges)
Hysterectomy (acute care and same-day surgery discharges)

Note: Refer to the original measure documentation for the administrative codes. Procedure codes may be recorded in any position.

Exclusions
Unspecified

Numerator Search Strategy

Institutionalization

Data Source

Administrative clinical data

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Measure is disaggregated into categories based on different definitions of the denominator and/or numerator

Basis for Disaggregation

The indicator is expressed as an overall ratio, calculated for discharges associated with any diagnosis or procedure (acute care discharges only) and separately for coronary artery bypass graft (CABG), percutaneous coronary intervention (PCI), hip replacement, knee replacement and hysterectomy procedures.

There are six inflow/outflow ratios:

- Overall
- CABG
- PCI
- Hip replacement
- Knee replacement
- Hysterectomy

Scoring

Ratio

Interpretation of Score

Does not apply to this measure (i.e., there is no pre-defined preference for the measure score)

Allowance for Patient or Population Factors

not defined yet

Description of Allowance for Patient or Population Factors

- Indicators are reported at the national, provincial/territorial, and regional levels.
- Unless otherwise specified, for indicators based on place of residence, data is reported based on the region of the patient's residence, not region of hospitalization. Consequently, these figures reflect the hospitalization experience of residents of the region wherever they are treated, including out of province, as opposed to the comprehensive activity of the region's hospitals (that will also treat people from outside of the region). Hospitalizations occurring in the U.S. or abroad are not included.
- For indicators based on place of service (where the patient was treated), data is reported based on the administrative region of the facility (e.g., region of hospitalization).

Standard of Comparison

not defined yet

Identifying Information

Original Title

Inflow/outflow ratio.

Measure Collection Name

Health Indicators ePublication 2015

Submitter

Canadian Institute for Health Information - Nonprofit Organization

Developer

Canadian Institute for Health Information - Nonprofit Organization

Funding Source(s)

Canadian Government

Composition of the Group that Developed the Measure

Employees: Canadian Institute for Health Information (CIHI) Health Indicators

Financial Disclosures/Other Potential Conflicts of Interest

None

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2015 May

Measure Maintenance

Annually

Date of Next Anticipated Revision

Unspecified

Measure Status

This is the current release of the measure.

This measure updates a previous version: Canadian Institute for Health Information (CIHI). Health indicators 2013: definitions, data sources and rationale. Ottawa (ON): Canadian Institute for Health

Information (CIHI); 2013 May. 89 p.

The measure developer reaffirmed the currency of this measure in April 2016.

Measure Availability

Source available from the [Canadian Institute for Health Information \(CIHI\) Web site](#)

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For more information, contact CIHI at 4110 Yonge Street, Suite 300, Toronto, Ontario, Canada, M2P 2B7; Phone: 416-481-2002; Fax: 416-481-2950; E-mail: hsp@cihi.ca; Web site: www.cihi.ca

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Companion Documents

The following are available:

Canadian Institute for Health Information (CIHI). Indicator library: general methodology notes - clinical indicators, March 2015. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2015 Mar. 19 p. This document is available from the [Canadian Institute for Health Information \(CIHI\) Web site](#) .

Canadian Institute for Health Information (CIHI). Canadian coding standards for version 2015 ICD-10-CA and CCI. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2015. 511 p. This document is available from the [CIHI Web site](#) .

Canadian Institute for Health Information (CIHI). Health indicators interactive tool. [internet]. Ottawa (ON): Canadian Institute for Health Information (CIHI); [accessed 2015 Jan 20]. This tool is available from the [CIHI Web site](#) .

NQMC Status

This NQMC summary was completed by ECRI Institute on October 10, 2008. The information was verified by the measure developer on December 18, 2008.

This NQMC summary was updated by ECRI Institute on April 19, 2010. The information was verified by the measure developer on June 24, 2010.

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The CIHI informed NQMC that this measure was updated on October 31, 2013 and provided an updated version of the NQMC summary. This NQMC summary was reviewed and updated accordingly by ECRI Institute on February 21, 2014.

This NQMC summary was updated again by ECRI Institute on September 4, 2015. The information was verified by the measure developer on November 6, 2015.

The information was reaffirmed by the measure developer on April 29, 2016.

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Questions and inquiries may be directed to: CIHI, Health Indicators, 4110 Yonge Street, Suite 300, Toronto, Ontario, Canada, M2P 2B7; Phone: 416-481-2002; Fax: 416-481-2950.

Production

Source(s)

Canadian Institute for Health Information (CIHI). Indicator metadata: inflow/outflow ratio. [internet]. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2015 May [accessed 2015 Jul 13].

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